

The Trustees of Reservations Request for
Certificate of Inclusion (COI) on East Beach and Leland Beach, Chappaquiddick
Island,
Martha's Vineyard
Annual Report
October 2017

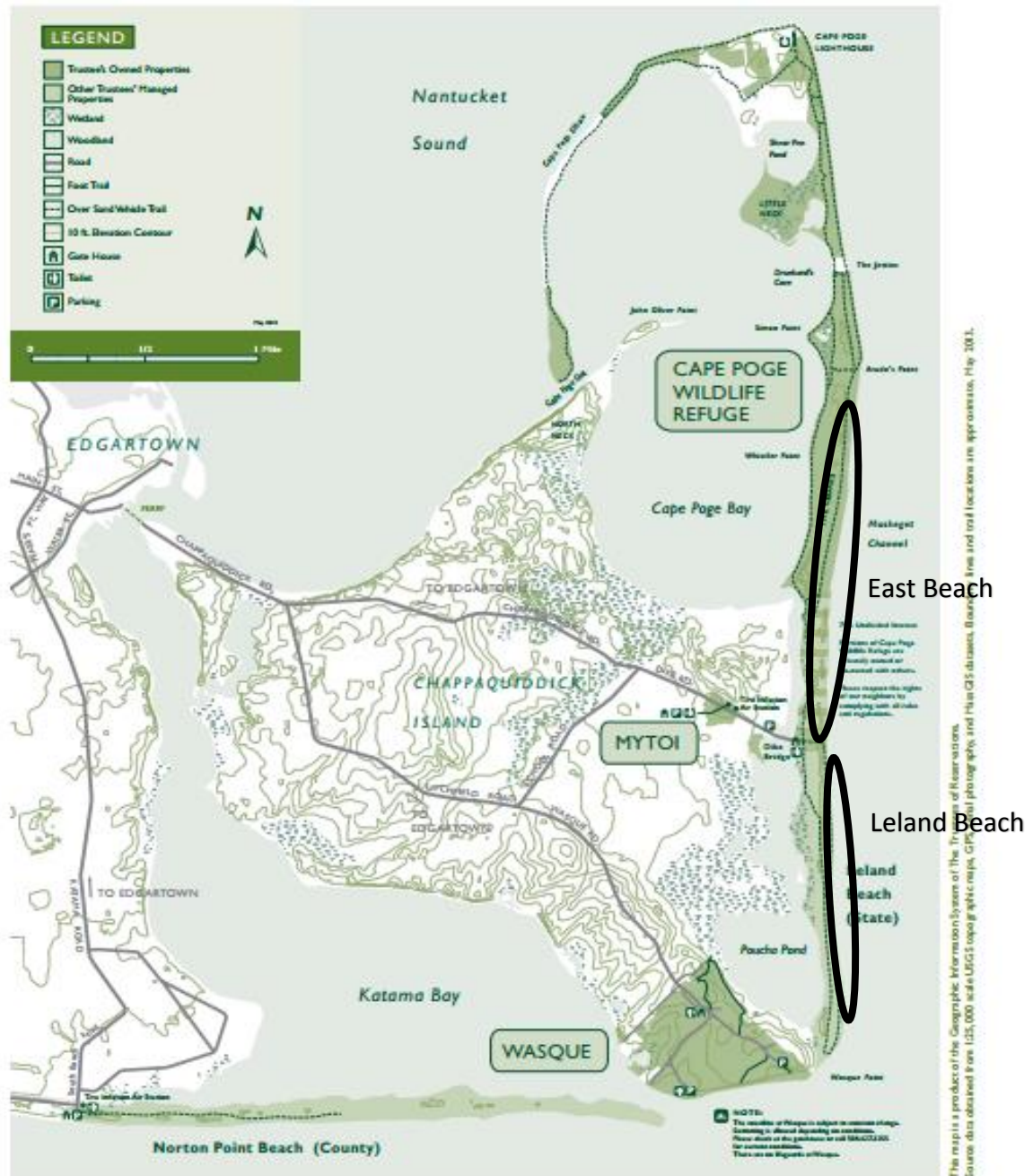


572 Essex Street
Beverly, MA 01915

Introduction

The Trustees of Reservations did not implement activities covered (OSV use in the vicinity of unfledged piping plover chicks) under the Certificate of Inclusion (COI) on East Beach and Leland Beach, Chappaquiddick Island in 2017 (Figure 1).

Figure 1: Cape Poge Wildlife Refuge Property and Trail Map including East and Leland Beach



The piping plover (*Charadrius melodus*) management and protection program on Martha's Vineyard, Massachusetts was initiated in 1986 and completed its 32nd year in 2017. The program's goals are to protect plover adults, nests, chicks, and associated critical habitats from human disturbance and predation using a variety of fencing techniques, intensive monitoring, predator management, public education, and communication. The initiatives implemented to protect piping plovers in 2017 are based on guidelines distributed by the Massachusetts Division of Fisheries and Wildlife (MDFW 1993).

Surveys began April 1st with suitable nesting habitat being monitored on alternate days, initially, and every day (weather dependent) by mid May and continued through mid August. Two shorebird technicians were hired for 15 weeks. Emily Steverman started May 9th. Diane Borden started May 22nd. Most nests were discovered within the habitat areas fenced prior to nesting, diminishing the need to install fencing or create additional disturbance at the time of nest detection. Communication was maintained between shorebird staff and gatehouse, tour, patrol staff and managers in order to ensure that all staff had up-to-date information about location of closures and status of nesting shorebirds. All incidents (examples include; dogs off leash, OSV trespass into closed shorebird areas, pedestrian trespass into closed shorebird areas, kites too close to nesting shorebirds, kite surfers too close to shore) were documented and reported. Shorebird rangers were trained in order to aid shorebird staff and so that, if an emergency occurred or maintenance was required beyond a closure, there would be a qualified ranger to provide escort through closed areas (See Appendix A for Trustees staffing schedule).

Once piping plovers and American oystercatchers began arriving at the site, observations were made using standard 10x40 binoculars to identify all pairs within the study area. All pair-bonding behaviors (i.e. courtship, copulation, scraping, territory defense, etc.) were recorded and nest searches were conducted daily in all suitable habitat. When nests were discovered in unrestricted areas those areas were immediately closed to the public using symbolic fencing and signs. Active nests and predator activity in nesting areas were monitored throughout the season. Breeding biology data collected included duration of egg-laying and incubation, hatch rate, predation rate, abandonment rate, washout rate, and duration of the interlude between nest failure and re-nest. Based on an incubation period of 28 days, hatch dates were estimated whenever possible. In most cases we were able to observe chicks on their hatch day. In accordance with the Massachusetts state guidelines, beaches were closed to over-sand vehicles from oceanside to bayside at a minimum distance of 100 yards from each piping plover nest two days prior to the predicted hatch date (Table 1). From April 1st to the end of the shorebird season dogs were not allowed on Leland Beach or past the first mile of Norton Point Beach. They were also not allowed within 100 yards of chicks. They had to be on leash on the rest of the property. These restrictions remained in place until all of the chicks either died or fledged. After hatching, broods were monitored (location, number of chicks, behavior, etc.) regularly until they fledged (i.e. sustained flight of 50+ feet or 35 days of age).

Table 1: Martha's Vineyard

Site	Date of Closure	Description	Earliest Opening
Gut	4/1	Tip of Gut	Opened 8/21
Cape Poge WR-East Beach	6/29	Everything North of Dike Bridge, Oceanside and	Opened 8/3

		Bayside	
Cape Poge WR-Jetties	7/1 *Already closed due to Pair further South	Everything North of Arruda's Point, Oceanside and Bayside	Opened 8/3
Leland Beach	6/12	Oceanside from Dike Bridge south, midway (Northern portion of Leland Beach)	Opened 7/15
Leland Beach	6/25	Both oceanside and Bayside from Leland access road to Wasque Point (Southern portion of Leland Beach)	Opened 7/31
Leland Beach	7/11: Already closed due to pair further North which has been moving chicks long distances and up to within 100 yards of access road north of this pair	Oceanside from North of Leland access road to south of access road based on pair's territory. Bayside road can remain open (Middle portion of Leland Beach)	Chicks were 35 days old on 8/15. Will remain closed until 8/18 due to weak flight of one chick.
Norton Point Beach	6/18	After first ¼ to ½ mile for at least 200 yards—however, no access to east end from Cape Poge/Wasque so it is essentially all closed.	Opened 7/27
Norton Point Beach	7/1	All but first ¼ or less	Opened 7/25

Predator management included both nonlethal and lethal control. Circular exclosures were used to protect piping plover nests on Chappaquiddick Island and Norton Point Beach where the assumed risk of egg depredation was high. The 10-foot diameter exclosures were constructed using four-foot fencing with 2 x 2 inch wire mesh. Garden netting was placed on top and attached with light duty wire ties. To minimize disturbance to the birds, initial construction was performed away from the nest site. The exclosures were buried 6-8 inches below ground level and secured to four metal posts to provide support. Exclosures were monitored daily to check for evidence of predators, signs of foul play, and to assure structural integrity. Additional protection efforts included two rounds of USDA-APHIS skunk, and crow trapping at Norton Point and on Chappaquiddick Island on April 10th through the 14th and June 12th through the 17th. The Trustees also conducted trapping between and after site visits by USDA-APHIS as soon as predator tracks were observed in nesting habitat and/or nests were depredated. The final traps were removed when the last shorebird nest with eggs was confirmed hatched/failed. An avicide, DCR1339, was also used by USDA-APHIS to remove "smart" crows targeting exclosures. Two

weeks before trapping visits The Trustees staff placed plain chicken eggs in mock exclosures with no top cover. During USDA-APHIS visits these eggs were replaced with avicide-laced eggs in exclosures where there was uptake.

Seventeen pairs of piping plover nested on Trustees sites on Martha's Vineyard. Combined, the pairs produced 27 nests, 81 eggs, 51 chicks, and 11 fledglings. The overall productivity was .65 chicks fledged per breeding pair. Nest success (nests that hatched at least one egg) was 55.6% (15/27); 52.9% (9/17) of first nest attempts hatched and 60.0% (6/10) of re-nests hatched. One renest was a third attempt. Nest failure was a result of washover (33.3%; 4/12), depredation by an unknown predator (25.0%; 3/12), American Crow (16.6%; 2/12), Norway rat (8.3%; 1/12), and abandonment (16.6%; 2/12). One abandonment was caused by a skunk circling an exclosure and the other occurred when an adult was lost to an avian predator. During the 2017 season, 78.4% (40/51) of piping plover chicks disappeared before fledging on Chappaquiddick Island. The cause of low productivity was unclear but likely a combination of several days of rain and an unknown avian predator. Both gulls and crows are present.

Out of these seventeen pairs of piping plovers, 3 nested on Leland Beach and 2 nested on East Beach. They produced 5 nests, 20 eggs, 18 chicks, and 7 fledglings. The productivity for these two sites was 1.4 chicks per pair. Nest Success was 100% (5/5). No eggs were lost to depredation. Only one egg from two nests failed to hatch. All nests were first attempts. 61.1% (11/18) chicks disappeared before fledging.

All field observations were recorded in field notebooks. Daily observation forms were filled out at the end of the day (See Appendix B). Nest information was recorded in nest attempt forms. Logs were kept for dog incidents (See Appendix C), fencing dates (See Table 1 above), and predator management (See Appendix D) in the form of Excel documents. Essential vehicles signed into notebooks at the entrance to areas temporarily closed to OSV traffic (Log notebooks can be presented upon request). Census information was recorded online on PIPODES and TERNODES following guidelines.

Implementation of Covered Activities

The Trustees of Reservations did not implement activities covered (OSV use in the vicinity of unfledged piping plover chicks) under the Certificate of Inclusion (COI) on East Beach and Leland Beach, Chappaquiddick Island in 2017.

Mitigation

Trustees implemented mitigation in the form of a comprehensive predator management plan on Crane Beach, Ipswich. It benefited 30 pairs of piping plovers. Predation remains a primary limitation on plover productivity at Crane. Two methods of predator management (lethal and non-lethal) were utilized in 2017. A comprehensive, lethal predator management program was implemented by contracting with USDA APHIS Wildlife Services, with funds granted to the Trustees by Massachusetts Fish & Wildlife, under the Piping Plover Habitat Conservation Plan <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/species-informationand-conservation/rare-birds/piping-plover-hcp.html>. Methods under this contract included lethal control for American crows, great horned owls, and coyotes. In addition, the Trustees implemented non-lethal control methods using electric fencing and one circular exclosure. All

methods were implemented on a case by case basis depending upon nest location and predator activity. As can be seen in Table 4, (43/72) 60% of nests were unprotected, (29/72) 40% of all nests were protected by electric fencing, and one plover nest with a wire enclosure. Of the 22 predated nests (17/22) 77% were predated within no protection and (5/22) 23% were within electric fencing.

Crow management was contracted through USDA APHIS Wildlife Services. Management lasted between April 19th and June 5th and involved the construction of mock bait stations, pre-baiting, and services provided by USDA deploying toxicant DRC- 1339. Bait Stations were designed to replicate non-lethal predator protection in the event predators have keyed into these methods. Bait stations included three open-topped 2X2 inch wire mesh enclosures. Hard-boiled chicken eggs were placed inside enclosures mimicking a shorebird nest. An ongoing log recorded the uptake of pre-bait and toxicant laced eggs. Game cameras placed at all three of the bait stations recorded predators taking bait. Of the three bait stations, two received uptake of pre-bait and a third was removed after receiving no uptake. Once uptake of pre-bait by crows became consistent, USDA was notified and they deployed DRC-1339 toxicant laced eggs. Twelve toxicant eggs were deployed this season and 6 of 12 were taken by American crows. Pre-baiting continued after USDA deployed the last round of toxicant on May 12th but no further uptake of pre-bait occurred and baiting stopped at all locations on 5/19.

Additional efforts to remove crows with firearms occurred this season in response to two crows displaying targeted behavior, frequently predated plover nests. In total 5 plover nests were lost to these individuals, which were seen at similar times of day, consistently foraging along the eastern end of the beach. Ecology staff witnessed one of these crows predated a plover nest. Due to the animal's disregard for a nearby bait station, control with firearms was contracted with USDA Wildlife Services to prevent further nest loss. On 5/12 the eastern portion of Crane Beach was closed to the public, control was implemented, and one crow was removed with a shotgun. On 5/13 new toxicant deployed on 5/12 was taken by American crow and crow predation ceased for the remainder of the season. This was a good example of the importance of monitoring predator behavior, and the effectiveness of a quick reaction to predators through lethal control.

The most conspicuous predator was one or more great horned owls with learned predatory behavior, present on the beach for a fourth year in a row. Least tern nests were frequently discovered predated and 3 plover nests were predated this season by an owl. Due to a great horned owl targeting circular enclosures in both 2014 and 2015, circular enclosures were not used in 2016. This remained the case in 2017 until 2 owls were removed by USDA Wildlife Services on May 23rd and the other on the 24th. In response to the owl's removal, one circular enclosure was erected around a plover nest for the first time since 2015. However, within a few days an adult plover was killed at the enclosure. Plover feathers were discovered and an owl was caught on camera trap at the enclosure, which is the first time we documented an adult mortality at an enclosure with a camera trap. As a result, the enclosure was removed and the remaining adult abandoned the nest shortly after. We assume that the owl with the learned predatory behavior was not one of the two removed, or that multiple owls are displaying this predatory behavior.

Coyotes, which first arrived to Crane Beach in the late 90's, are the other most active predator. Trends in recent years show coyotes becoming particularly active when least terns arrive, begin nesting, and especially when their nests hatch. For the first time in the programs history, efforts to lethally remove coyotes were implemented as part of USDA's predator management plan. One coyote was removed this

season using call backs and firearms on 7/10 (Table 2). The philosophy of coyote control at Crane is not to remove all the animals from the system, but rather reduce the number of animals who have learned to predate shorebirds at Crane over the years. We believe there is value in maintaining coyotes in low densities to control meso predators like skunks – a predator that has seldom been documented as a nest predator on the beach.

Table 2: Predators Taken by Firearm

Date	State	County	Site	Who conducted?	Great Horned Owl	Coyote	Crow
3/29/17	MA	Essex	Crane Beach	USDA	0	0	0
4/18/17	MA	Essex	Crane Beach	USDA	0	0	0
5/12/17	MA	Essex	Crane Beach	USDA + Ecology Staff	0	0	1
5/19/17	MA	Essex	Crane Beach	USDA + Ecology Staff	0	0	0
5/23/17	MA	Essex	Crane Beach	USDA	1	0	0
5/24/17	MA	Essex	Crane Beach	USDA	1	0	0
6/12/17	MA	Essex	Crane Beach	USDA	0	0	0
7/10/17	MA	Essex	Crane Beach	USDA + Ecology Staff	0	1	0

Electric fencing was used widely in 2017 for both plovers and terns. Two large fence set-ups covering roughly 11 acres, were erected west of the Red Trail protecting 18 plover nests and many tern nests. Five smaller set-ups covering about 6 acres in total, were used in other areas protecting 10 plover nest. Thirty-nine percent (28/72) of the nests were protected by electric fencing. In conjunction with discouraging mammalian predation, electric fencing added an additional buffer to our symbolic fencing by preventing foot traffic associated with fencing violations. This reduced the risk of a violator stepping on a nest, and proved valuable in areas frequently used by the public. While electric fence effectively reduces mammalian predation, it does not protect against avian predators. Eighteen percent (5/28) of nests within electric fence failed due to an unknown predator, which is highly suspected to be avian (owl).

Thirty-nine pairs of piping plover nested on Crane Beach in 2017, an increase from 30 pairs that nested in 2016. These 39 pairs produced 72 nests, 253 eggs, 96 chicks and 33 fledglings. The overall productivity was .85 fledglings per breeding pair; falling short of the 1.25 productivity target necessary to support growth in the population. Of the 72 total nests, 45 failed. Nest failures (45/72) were due to a

combination of (22/45) 49% predation, (10/45) 22% were buried by wet wind driven sand, (7/45) 16% were washed out by high tides and (6/45) 13% was due to abandonment or infertility. Nest predation was identified by observing tracks, nest bowl disturbance and eggshell fragments. Of the 22 predated nests, (10/22) 45% were to unknown predators, and (12/22) 55% were to known predators; (4/12) to coyote, (3/12) to great horned owl and (5/12) American crow (Table 3). Compared to 2016, nest predation increased by 12 and nests lost to storm events increased by 8, likely contributing to the lower productivity this year.

Table 3: Cause of Nest Failure, Crane Beach, Ipswich 2017

Cause of nest failure	Electric Fence	Circular Exc	No Protection	Total failures from this cause
Unidentified (predator)	3		7	10
Coyote	0		4	4
Crow	0		5	5
Great Horned owl	2		1	3
Sanded Over	3		7	10
Washover	2		5	7
Abandonment	2	1	2	1
Total	12	1	31	44

Recreational Benefits

The Trustees of Reservations did not implement activities covered (OSV use in the vicinity of unfledged piping plover chicks) under the Certificate of Inclusion (COI) on East Beach and Leland Beach, Chappaquiddick Island in 2017. East Beach was closed at Dike Bridge from June 29th to August 3rd, which also kept all of Cape Poge Wildlife Refuge inaccessible to OSV users during this time. Leland Beach was closed oceanside from Dike Bridge to a point 500 meters south from June 12th to July 15th. It was closed from an access road midway down Leland Beach to Wasque Point, oceanside to bayside, from June 25th to July 31st. Leland Beach was closed oceanside from 500 meters south of Dike Bridge Rd to 900 meters north of Wasque Point from July 11th to August 18th.

Appendices

Appendix A: Trustees of Reservations Staff Schedule*

April 1st- May 21st							
Position	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Asst. Superintendent			Tony Lima	Tony Lima	Tony Lima	Tony Lima	Tony Lima
Chief Ranger Part Time	Rick Dwyer	Rick Dwyer	Rick Dwyer	Rick Dwyer			Rick Dwyer
Southeast Ecology Asst.		Caitlin	Caitlin	Caitlin	Caitlin	Caitlin	
	21-May Sunday	22-May Monday	23-May Tuesday	24-May Wednesday	25-May Thursday	26-May Friday	27-May Saturday
Position	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Asst. Superintendent, Shorebird			Tony Lima	Tony Lima	Tony Lima	Tony Lima	Tony Lima
Mytoi Gatehouse						Pat O'leary	Pat O'leary
Dike Bridge Gatehouse						Ali Rizza	Ali Rizza
Wasque Gatehouse						Patricha Hyde	Patricha Hyde
Chief Ranger, Shorebird	Will	Will				Will	Will
Admin Ranger	Sue	Sue	Sue			Sue	Sue
Ranger							
Ranger, Shorebird				Tyler Brown	Tyler Brown	Tyler Brown	Tyler Brown
Ranger							
Ranger/Garden Maint.							
Ranger						Paul O'leary	Paul O'leary
Maintenance							Brian O'leary
Night Ranger				Bob Ozyck	Bob Ozyck	Micheal Gately	Micheal Gately
Shorebird	Diane	Diane	Diane	Diane			Diane
Shorebird	Emily		Emily		Emily	Emily	Emily
Southeast Ecology Asst.		Caitlin	Caitlin	Caitlin	Caitlin	Caitlin	

*Typical weekly staff schedule consisting of a minimum of three Ecology/Shorebird staff each day and at least one Ranger trained in shorebird management and behaviors. Assistant Superintendent and Chief Ranger are also trained.

Appendix B: Daily Observation Forms**

Leland Beach

o	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL 06A	PIPL09	PIPL16	# AMOY	#AMOY Chicks	# of AMOY Fledges	AMOY 10A	AMOY 10B	AMOY 14A	Terns	Skimmers
3/22/2017	Fencing up across entire length of Leland Beach	-	1 adult: First	-	-	-	-	-	-	-	-	-	-	-	-	-
3/27/2017	2 Prebait enclosures put up	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-
4/10/2017	-	USDA on-island	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/28/2017	-	Volunteer: Chris Bruno	0	-	-	-	-	-	-	-	-	-	-	-	-	-
5/1/2017	-	Volunteer training: Laura Peach	0	-	-	-	-	-	-	-	-	-	-	-	-	-
5/3/2017	-	Tracks, no nesting behavior	2	-	-	-	-	-	-	-	-	-	-	-	-	-
5/9/2017	-	PIPL tracks north of Dike Bridge, 1/4 mile	2	0	0	-	-	2	-	-	-	New Nest: 2 eggs. Toe of dune, see notebook for details	-	-	-	-
5/16/2017	Moved fencing to close off Parking Area	Fresh PIPL scrapes in Parking area across from bayside boardwalk. Three fresh scrapes	1	-	-	-	-	-	-	-	-	Did not see	-	-	-	-
5/18/2017	-	AMOY tracks south of Dike Bridge access, PIPL tracks along mid/north Leland, skunk tracks mid-Leland	0	-	-	new nest @ 3 eggs	-	-	-	-	-	Birds agitated, not on a nest	-	New nest found @ 1 egg	-	-
5/19/2017	-	Exclosure put up within 21 mins & 50 seconds	0	-	-	Exclosed	-	-	-	-	-	-	-	-	-	-
5/20/2017	Moved out fence near south access road	-	0	-	-	-	-	-	-	-	-	-	-	-	-	-
5/21/2017	-	-	0	0	0	BON	-	-	Please see notes in Em's notebook	0	0	Depredated by crow	-	BON	0	0
5/23/2017	-	AMOY 10a pair seen near site of depredated nest; tracks & fresh scrape present	2	0	0	BON	-	-	3	0	0	-	-	BON	0	0
5/24/2017	-	-	1	0	0	4 eggs	New nest: 1 egg, interdune nest to road almost across from fisherman's boardwalk	-	0	0	0	-	-	2 eggs	0	0
5/26/2017	-	-	1	0	0	BON	Did not check 3 eggs, BON, needs to be enclosed	-	3	0	0	-	-	BON	0	0
5/27/2017	-	-	1	0	0	BON	-	-	1 (unknown)	0	0	-	-	Did not check	0	0

Leland Beach Cont'd

o	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL 06A	PIPL09	PIPL16	# AMOY	#AMOY Chicks	# of AMOY Fledges	AMOY 10A	AMOY 10B	AMOY 14A	Terns	Skimmers
5/30/2017	-	Put up exclosure around PIPL09. Exclosure time: 14 mins & 55 secs: 1 BLSK seen flying over bayside	1	0	0	BON	4 eggs, BON	-	2 (looking sketchy, bayside)	0	0	-	-	Not checked	1	0
5/31/2017	-	-	1	0	0	4 eggs, BON	Did not check	-	0	-	-	-	-	Found several scrapes, but could not find nest. No signs of egg shells, predation, or adult AMOY	0	0
6/1/2017	-	AMOY 14A depredated. No skunk tracks but no gull/crow tracks either. Multiple AMOY flying and calling nearby; soon, red knots & eider seen	4	0	0	BON	BON	-	-	-	-	New Nest @ 2 eggs, BON	Definitely depredated, unclear what by	0	1	
6/2/2017	-	No uptake at first false exclosure. Full uptake at second.	3	0	0	BON, skunk tracks along edge	-	-	-	-	-	3 eggs, BON	-	0	-	-
6/3/2017	-	Placed eggs in false exclosures	0	0	0	Did not check	Did not check	-	0	0	0	-	Did not check	-	0	0
6/4/2017	-	Placed eggs in false exclosures	3	0	0	4 eggs, BON	4 eggs, BON	-	0	0	0	-	3 eggs, BON	-	0	0
6/8/2017	-	2 PIPL acting sketch along south Leland, signs of high stepping. Tracks go along vegetation. 1 recent scrape and 1 peep heard.	4	0	0	BON, skunk tracks along edge	BON, 4 eggs, tracks lead bayside	-	3	0	0	-	3 eggs, BON	-	0	0
6/9/2017	-	-	3	0	0	BON	BON	-	Please see Em's notebook	0	0	-	3 eggs, 2 adults nearby	-	0	0
6/11/2017	-	-	3	0	0	4 eggs, BON, no signs of hatch	4 eggs, BON, adult foraging bayside	-	0	0	0	-	3 eggs, BON	-	0	0
6/12/2017	Fenced off East Beach access road across from Dike Bridge & set up fencing halfway down East Beach, just north of Leland bayside access road with help from VIII, took some posts from near Viarque end to repurpose on the Out later in today when we would bump out the symbolic fencing to the line of the null colony.	Closing Leland/East Beach oceanside from East Beach access road across from the Dike Bridge to halfway down East Beach just before Leland bayside access road for PIPL06A, placed 'no dog' and 'dead end' sign oceanside just before closure (after access road to Leland bayside)	2	0	0	BON	BON	-	2	-	-	-	3 eggs, BON, other adult foraging oceanside	-	0	0

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6/13/2017	-	-	3	0	0	BON	BON	New Nest @ 2 eggs, BON	1	-	-	-	3 eggs, BON	-	0	0
6/14/2017	-	Skunk tracks observed near the first false exclosure as come on to Leland bayside	5	0	0	4 eggs, BON, other adult preening	4 eggs, BON, other adult foraging bayside	2 eggs, BON	2	-	-	-	3 eggs, BON, mate foraging oceanside	-	0	0
6/15/2017	-	-	4	0	0	Hatching began AM BON	BON	BON, 3 eggs	2	-	-	-	3 eggs, BON, adult nearby	-	0	0
6/18/2017	-	2 AMOY flushed from mid dune past the osprey pole	3	-	-	-	BON	4 eggs BON	4	-	-	-	3 eggs BON, other adult nearby	-	0	0
6/19/2017	-	Very high winds - drove by briefly to check nests and look for PIPL06A	5	-	-	2 adults alarm calling oceanside near the fence line by the bayside access road - did not observe chicks - was only able to observe for ~15 minutes as winds were building and gulls were patrolling the beach	BON	BON	5	-	-	-	BON	-	1 LETE, oceanside	0
6/20/2017	-	-	4	4	-	-	BON	4 eggs BON	3-2 from 10B and 1 UNB feeding oceanside in restricted area	-	-	-	3 eggs BON -1 nearby	-	-	-

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6/21/2017	-	Took down enclosure around PIPL06A (with Tony & Anica) and reupposed it for PIPL 14A (with Tony & Anica; enclosure time @ 13 minutes). Later took down two mock enclosures on Leland with Anica	4	-	-	Did not observe	BON	BON, both adults present, 4 eggs	3	-	-	-	BON, 3 eggs, both adults present	-	3 LETE	0
6/25/2017	Closed Leland after the bayside access road for PIPL 09A	Placed 'no dog, keep to shoreline' signs near the pond - need to add 'no boat' signs; also need to bump the fencing oceanside south about 100 yards (as well as shift the beginning of the fencing closest to the oceanside access road from Dike Bridge)	6	4	-	Observed 1 chick in the dunes between oceanside & the bayside road (!) - may have been more but it was a fairly brief search	3 chicks freshly hatched (still wet with egg tooth, and within two feet of the nest cup) and one still in the egg pipping; BON; both adults present	4 eggs, BON, both adults present	2	-	-	-	BON, 3 eggs, both adults present	-	0	0
6/28/2017	-	Requested a visitor to refrain from flying kites within southern closed area near PIPL brood 09A. Reports of dogs off leash on radio.	2	4	-	Did Not see	both adults and 4 chicks feeding oceanside near the band	Did Not See	-	-	-	-	BON	-	0	0
6/28/2017	-	Some PIPL tracks were located in the pond side road, most of which were obscured by vehicle tracks. Brood 09 was traveling in and out of the dune grass, making an accurate count of chicks difficult.	2	2	-	Could not locate after a thorough search	2 adults and 2 chicks at edge of oceanside vegetation near the band.	4 eggs, BON +1 adult nearby	-	-	-	-	BON	-	0	0
7/2/2017	Closed gate to symbolic fencing south of Leland access road - was open upon arrival	Visitors playing volleyball using our fence line as a net (the furthest fence line that is up for PIPL06A) - by the time drove up to them they had gone, unattended (no ball) was found on beach inside this same fencing (middle, oceanside, approximately 10ft from where PIPL 06A was brooding); eventually able to speak with two men who arrived within five minutes of approach - they noted that they were leaving for Edgartown harbor & headed out without argument - they did, however, capsize once five feet away from the shoreline... A party of individuals had set up	4	5	0	2 adults & 1 chick foraging, oceanside	2 adults & 4 chicks foraging, bayside	4 eggs, no bird present	2	0	0	-	Did not see chicks	-	0	0

Leland Beach Cont'd

o	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL 06A	PIPL09	PIPL16	# AMOY	#AMOY Chicks	# of AMOY Fledges	AMOY 10A	AMOY 10B	AMOY 14A	Terns	Skimmers
7/3/2017	Bayside Road to Leland opened after 10am and access road open. Was closed yesterday evening. Posted staff at access road to watch chick from PIPL 06. Highly mobile	I went to check PIPL pair 05 at 7:30am as Chris K. did not think adults had chick and wanted to open Leland. Will and I found chick close to North end of fencing. We talked to Chris K. and decided to open the Leland access rd and some beach north of it (rd had been closed at start of day). However, as Will and I were setting up this fencing chick with Pair 06 was seen about 100 yards from access rd. We replaced fencing and went back to Mylot to discuss options. I did not want access rd opened as the chick was highly mobile. Chris did based on the 100 yard buffer. We compromised by placing a monitor to watch chicks. Will and I watched for 1:30pm. I checked other pairs on Leland at end of this time. Chris watched it 5pm then closed the access road. I thought this was risky as the chicks were highly mobile and if they had moved closer than 100 yards we would have had to escort everyone off this section. Will discuss further later.	6	3	0	1 adult oceanside next to North fencing line in morning. Adult and chick back in dunes. Had an hour later the chick was within 100 yards of South fence line.	2 chicks along pond with both adults	BON, Did not check eggs		0	0	-	-	-	None	None
7/4/2017	-	-	6	5	0	1 chick & 2 adults foraging, oceanside - mid-fence line	4 chicks & 2 adults seen foraging, bayside pond	4 eggs, BON + 1 adult	4	0	0	-	-	-	None	None
7/4/2017	Bayside Road to Leland closed. Moved North end of fencing 4 posts south	-	6	3	0	Both adults and chick in dunes. Midpoint.	Did Not Check	BON, Did not check eggs	Please see Em's notebook	Please see Em's notebook	Please see Em's notebook	-	-	-	-	-
7/5/2017	Road is still closed. Fencing the same		6	3	0	Chick and both adults oceanside closer to South end	2 chicks along pond with both adults	BON, Did not check eggs		0	0	-	-	-	-	-
7/6/2017	-	Please see Em's notebook	Please see Em's notebook	Please see Em's notebook	Please see Em's notebook	Chick & both adults oceanside	2 adult and 2 chicks feeding bayside near boardwalk	BON	3	0	0	-	-	-	-	-

o	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL 06A	PIPL09	PIPL16	# AMOY	#AMOY Chicks	# of AMOY Fledges	AMOY 10A	AMOY 10B	AMOY 14A	Terns	Skimmers
7/9/2017	-	-	5	3	0	Chick & both adults in middle of symbolic fencing, oceanside	2 chicks along pond with both adults	4 eggs, BOH	4 (unbanded)	0	0	-	-	-	0	0
7/13/2017	-	Horse manure bayside near boardwalk	Please see Em's notebook	2	0	1 adult, 1 chick oceanside	did not check	2 Adults (1 on nest, 3 chicks, 1 egg still in nest cup	4	0	0	-	-	-	-	-
7/15/2017	Tony & Annika bumped the fence line on oceanside a bit back toward the access road - though, the PIPL06 would not fly for them, so the fence line was then bumped back north a bit to give the bird a bit more of a buffer until the fledging is more comfortable with flight.	Need to check back first thing tomorrow for PIPL09A as we were unable to observe the bird - heard peep-to from dunes but no visual signs of the birds or their chicks. There were 2 kayaks up on shore where the birds normally forage. Unattended: there does not appear to be a take. PIPL16A has one egg remaining in nest cup (not viable), and the brood is foraging oceanside -50ft south of enclosure site	3	2	1	1 chick fledged (1) + 1 adult - other adult not in sight	Did not get a visual of the birds after search, but did hear a peep-to coming from the dunes nearby - need to check back tomorrow	1 egg in nest cup (fledged); 2 chicks + 1 adult (female) foraging oceanside - unknown if there is a 3rd chick with the 2nd (unseen) adult - need to check back	1, foraging oceanside	0	0	-	-	-	1 LETE, flying over oceanside	1 BLSK, foraging bayside
7/16/2017	-	-	4	2	0	1 fledged chick + 1 adult	Both adults bayside, no chick seen but parents were agitated and calling	2 adults, 2 chicks oceanside near their enclosure	1 oceanside	0	0	-	-	-	-	0
7/17/2017	-	For PIPL09: There are two adults making frantic chick calls as I got closer to furthest end of pond, but because of the fog I couldn't even see the adults, let alone a chick - the adults seem quite passionate, so I am assuming that there is a chick nearby	3 seen + 2 heard pondsides	1	1	1 fledging + 1 adult, middle of fence line, oceanside	See notes	@ least 1 chick foraging near nest in the dunes + 2 adults	0	0	0	-	-	-	14 LETE, oceanside	0
7/18/2017	-	Fog is incredibly dense still - cannot see more than 15-20 yards ahead - so any plovers that were not seen, this may have contributed significantly to that	3	2	1	1 fledging + 1 adult	Did not see	@ least 2 chicks + 2 adults	2 (UB) oceanside + 1 (UB) bayside	0	0	-	-	-	6 ROTE flying oceanside	0
7/19/2017	-	-	3	2	1	1 fledging + 1 adult near northern end of fence line	Did not see	2 chicks + 2 adults foraging in the grasses	2 (UB) foraging	0	0	-	-	-	7 LETE, 1 COTE foraging	1 BLSK foraging

o	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL 06A	PIPL09	PIPL16	# AMOY	#AMOY Chicks	# of AMOY Fledges	AMOY 10A	AMOY 10B	AMOY 14A	Terns	Skimmers
7/22/2017	-	PIPL16A was found at the access road, south of where it was spotted the day before; PIPL06A has left the fenced area and was spotted ~100 yards north of fence line flying when approached with vehicle; 3 killdeer oceanside	5	3	1	1 fledging + 2 adults	1 chick (did not see fly but looks like all flight feathers are in) + 1 adult down near Wasque	2 chicks + 2 adults	2 (UB), foraging oceanside	0	0	-	-	-	3 LETE, 1 COTE, 1 ROTE, 1 foraster's tern	0
7/23	-	PIPL tracks 7 posts in restricted area and heavy PIPL tracks mid beach	3	3	0	Please see Em's notebook	1 adult and 1 chick oceanside, S Leland	1 adult brooding 2 chicks 4 posts N of 2nd sign-in kioskgate	3 UNB	0	0	-	-	-	2 LETE flying over	0
7/25	-	09A has not yet fledged - was observed near the Wasque end - need to keep an eye on chick for signs of fledging; there are a TON of least sandpipers roaming oceanside + 1 black-bellied plover	2	3	0	Did not see, but we were not checking for 06A	1 adult + 1 chick foraging oceanside near Wasque	2 unbanded, foraging oceanside	0	0	0	-	-	-	1 LETE flying from oceanside to bayside	0
7/27	-	PIPL tracks mid beach. Single PIPL adult seen bayside near boardwalk, but could not determine if 09 or 05	1	2	0	Did Not See	1 adult, 1 chick	1 adult, 1 chick	2 UNB	0	0	-	-	-	-	0
7/28	-	P16 brood at mid beach. PIPL heard peeping at bayside boardwalk is likely P09 adult.	1	1	0	did not check	could not locate	1 chick, 1 adult	2	0	0	-	-	-	0	0
7/30	Plover restriction fencing bumped north at it's northern edge due to P16 chick foraging near vehicles	PIPL tracks at bend in south Leland as well as shore of Frouda Pond. 3 PIPL seen flying near P16 enclosure, but they passed too quickly to determine age. Gull with broken wing near dike bridge entrance to beach	4	0	0	did not check	1 adult pondsides	could not locate	0	0	0	-	-	-	0	0
8/2	-	-	1	1	0	did not check	could not locate	1 adult, 1 chick	2 UNB	0	0	-	-	-	5 LETE, 2 COTE, 1 ROTE	0
8/3	-	P16 brood near southern edge of restricted area, but acceptable distance from vehicle traffic	1	1	0	did not check	could not locate	1 adult, 1 chick	0	0	0	-	-	-	0	0
8/4	-	PIPL tracks near bayside boardwalk, possibly from P09. P16 brood was mid beach.	1	1	0	did not check	could not locate	1 adult, 1 chick	3 (1 definitely UNB)	0	0	-	-	-	3 COTE	0
8/5	-	2 gulls with broken wings within restricted area	1	1	0	could not locate	could not locate	1 adult, 1 chick	2 UNB	0	0	-	-	-	0	0
8/6	-	P16 chick was observed close to the first sign in box within the restricted area and was encouraged to move to mid fence line	0	1	0	did not check	could not locate	1 chick	0	0	0	-	-	-	0	0
8/10	-	P16 chick foraging mid fence line. P09 adult seen flying over dune, peeping. PIPL tracks near fisherman's boardwalk	1	1	10	could not locate	1 adult	1 chick	1	0	0	-	-	-	0	0
8/14/2017	-	PIPL16A has fledged - one fledging took off upon approach with the UTV from mid-fence line, oceanside, after foraging along the shoreline - the second fledging has fully developed flight feathers, though it is relatively small for its size - the second fledging absolutely refuses to fly upon approach with UTV or with running full speed at bird (this little guy is FAST though) - may want to keep that section of beach closed for just a bit longer	0	0	2	Not present - believe to have moved on	Not present - may have moved on	2 fledglings foraging oceanside - please see notes*	0	0	0	-	-	-	0	0

Leland Beach Cont'd

o	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL 06A	PIPL09	PIPL16	# AMOY	#AMOY Chicks	# of AMOY Fledges	AMOY 10A	AMOY 10B	AMOY 14A	Terns	Skimmers
8/4	-	PIPL tracks near bayside boardwalk, possibly from P09. P16 brood was mid beach.	1	1	0	did not check	could not locate	1 adult, 1 chick	3 (1 definitely UNB)	0	0	-	-	-	3 COTE	0
8/5	-	2 gulls with broken wings within restricted area	1	1	0	could not locate	could not locate	1 adult, 1 chick	2 UNB	0	0	-	-	-	0	0
8/6	-	P16 chick was observed close to the first sign in box within the restricted area and was encouraged to move to mid fence line	0	1	0	did not check	could not locate	1 chick	0	0	0	-	-	-	0	0
8/10	-	P16 chick foraging mid fence line. P09 adult seen flying over dune, peeping. PIPL tracks near fisherman's boardwalk	1	1	10	could not locate	1 adult	1 chick	1	0	0	-	-	-	0	0
8/14/2017	-	PIPL16A has fledged - one fledging took off upon approach with the UTV from mid-fence line, oceanside, after foraging along the shoreline - the second fledging has fully developed flight feathers, though it is relatively small for its size - the second fledging absolutely refuses to fly upon approach with UTV or with running full speed at bird (this little guy is FAST though) - may want to keep that section of beach closed for just a bit longer	0	0	2	Not present - believe to have moved on	Not present - may have moved on	2 fledglings foraging oceanside - please see notes*	0	0	0	-	-	-	0	0

East Beach Daily Observation Forms**

Date	Staff	Weather	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL10	PIPL15	# AMOY	# AMOY Chicks	# of AMOY Fledges	AMOY 12A	AMOY 17A	Terms
3/22	Tony			Fencing up on half of Swimming beach and half of section north of Narrow access rd.	-	-	-	-	-	-	-	-	-	-	-
3/27/2017	CRB		1 Prebait enclosure put up		-	-	-	-	-	-	-	-	-	-	-
4/28/2017	CRB	Thunderstorms in AM	-	W/volunteer: Chris Bruno	-	-	-	-	-	2	-	-	-	-	-
4/29/2017	CRB	62, 10 mph wind from SW	-	USDA on-island	-	-	-	-	-	-	-	-	-	-	-
5/1/2017	CRB	Drizzle, 100% cloud cover, foggy, 50 degrees, 1-5 mph	-	W/volunteer: Laura Peach. She covered East/Leland Beach for following week. Fresh AMOY scrapes	1	-	-	-	-	2	-	-	-	-	-
5/4/2017	Laura Peach	60s sunny, 15mph wind from south	-		2	0	0	-	-	-	-	-	-	-	-
5/9/2017	CRB	60 degrees, 1-3mph wind SE, wispy clouds	-	PIPL tracks north of Dike Bridge, 1/4 mile	2	0	0	-	-	2	-	-	-	-	-
5/11/2017	CRB, ES	mostly cloudy, high 50s - low 60s	-	PIPL territorial flights, both sides access roads, fresh scrapes	3	0	0		-	1	-	-			0
5/12/2017	ES	50s, overcast with early light rain	-		3	0	0	-	-	-	-	-	-	-	-
5/23/2017	ES, DB	ling through: wind @ 8mph, HT @ 10:35am	-	Territorial AMOY seen chasing an Osprey from the dunes	0	0	0	-	-	4 (3 unbanded, 1 flying/unknown)	-	-	-	-	1 LETE
5/24/2017	DB, CRB	61F, 45% cloud cover with sun breaking through	-	*Reminder to put yellow tape for nest Received call from Savannah, Mass Audubon, about deceased and banded AMOY 20m from water's edge in Marsh, 50m from Dike bridge gatehouse. Banded YEHM. Collected at around 10:15am. This AMOY had been spotted by Tony with injured leg 4/24/2017 at 8:45am but was not seen again before now. No obvious signs of cause of death. Brought to Biodiversity/Visitors who will keep in freezer until possible transfer to Harvard Museum.	1	0	0	-	-	-	-	-	-	-	-
5/25	CRB	55F, 100% overcast, 16mph wind, Rain off and on	None		Did not check	-	-	-	-	Did not Check	N/A	N/A	-	-	Did not check
5/27/2017	DB, ES	63F (feels like high 60s); 50% cloud cover with lots of sun; wind @ 5mph	Placed 'dog on leash' signs near four-way @ bridge, as well as at the start of beach on ocean side	Yellow tape placed to mark PIPL 09	1	0	0	-	-	2, unbanded	-	-	-	-	1
05/30/2017	DB, ES, CRB, Tony	55F, 92% cloud cover, NINE winds @ 4mph	-	AMOY pair acting suspicious - may have a nest just south of Amuta Point, a piping plover pair was also scraping just south of Amuta point - need to put up symbolic fencing around scrapes, lots of terns (LETE & COTE) spotted oceanwide	4	0	0	-	-	4	-	-	Did not check	-	Several LETE & COTE
05/30/2017	DB, Tony	60F (feels colder); 100% cloud cover with dense fog coming off the ocean & mist, NINE winds @ 4mph	placed symbolic fencing around PIPL scrapes that were observed earlier in the day and unfenced. Fencing extended	Need to place yellow tape to mark new AMOY 17A nest	2	0	0	-	-	3, unbanded	-	-	2 eggs	New nest @ 2 eggs	Did not check
				PIPL acting suspicious oceanwide, near beginning of											

Date	Staff	Weather	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL10	PIPL15	# AMOY	# AMOY Chicks	# of AMOY Fledges	AMOY 12A	AMOY 17A	Terms
05/31/2017	DB	55F, 100% cloud cover, SE winds @ 5mph	-	PIPL acting suspicious oceanwide, near beginning of Wasque (not where the big fun around is, but the nest entrance onto the beach) - 1m 100% positive (she has a nest somewhere as I was being prepped at quite a bit around the same area. Two AMOY mating oceanwide; another PIPL was scraping inside the fencing north of PIPL 10 (going toward Amuta Point, oceanwide; put tape next to AMOY 17A to mark nest	3	0	0	Found new nest @ 2 eggs, BON	-	6, all unbanded	-	-	2 eggs, BON	2 eggs, BON	24 LETE, 2 COTE (oceanwide)
06/01/2017	ES	foggy, partly sunny, 60F with East winds @ 5-10 mph	-	3 AMOY feeding @ East swimming beach, 1 PIPL scrapes @ south East Beach	2	0	0	2 eggs	-	6	-	-	Not checked	2 eggs	17 COTE at Amuta Point
06/03/2017	DB, ES	61F, 45% cloud cover, W winds @ 8mph, H	-	Tried to find possible PIPL nest near Wasque - found fresh PIPL prints, crow & adult signs - but not seen. Placed enclosure around PIPL 15A with Tony, Tyler & CRB in the afternoon (Time: 17mins), prior to enclosing, asked fishermen directly in front of nest to move down the beach - they were very polite, and there was no conflict	2	0	0	3 eggs, BON - enclosed	-	3	-	-	2 eggs, BON	2 eggs, BON	0
06/04/2017	DB	61F, 45% cloud cover, W winds @ 8mph, H	-	Fisherman reported finding a nest between entrance to Wasque and exit for bayside, noting that every time a vehicle passed the bird flushed & seemed very disturbed - went to check out the area & it is an AMOY that we already have marked - may want to consider bumping out the fencing, as bird is near fence line?; also checked false enclosure toward Amuta's pt (no update)	2	0	0	3 eggs, BON	-	7	-	-	2 eggs, BON	2 eggs, BON	0
06/07/2017	DB, ES	66F, 40% cloud cover, WNW winds @ 5mp	Tony placed fencing around East Beach access from the cedars to Amuta's point	Found new nest with 4 chicks - 2 had just hatched. Tony closed off this section of beach for newly hatched brood while DB & ES walked with chicks to be sure of where brood was	3	4	0	4 eggs, BON	New nest: 4 chicks (2 w/ 2 day), both adults present and preening	2	-	-	2 eggs, BON	2 eggs, BON	0
06/09/2017	ES	74, morning rain to part sun, E wind @ 10 mph	-	-	-	-	-	BON, 1 adult nearby	Could not locate brood	8 (17A pair, 4 loafing, 2 courting)	-	-	Hatched AM, 2 chicks (seen by Tony)	-	-
06/10/2017	CRB, DB	71 Degrees, 7mph from SW, 16% CC	Cape Poge closed to OSV traffic from Dike Bridge North, oceanwide to bayside	Tour Truck found Piping plover chicks bayside. Shorebird technicians were called to site and watched brood while rangers cleared property and set up fencing for closure	2	4	-	-	-	-	-	-	-	-	-
06/11/2017	DB, ES	-	Placed login box at Dike Bridge Closure	Placed 'no dogs' sign near swimming beach entrance; PIPL seen scraping near PIPL 10A near the 'no dog' signs just past the nest heading toward Amuta's Point	2	0	0	4 eggs, BON	not seen - had moved to the Narrows earlier in week - note seen by Tony protection mule	1	-	-	Did not see brood	Did not check	1 LETE & 2 COTE flying overhead

East Beach Cont'd

Date	Staff	Weather	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL10	PIPL15	# AMOY	# AMOY Chicks	# of AMOY Fledges	AMOY 12A	AMOY 17A	Terms
06/12/2017	DB, CRB	80F, mostly sunny; 26% cloud cover; NINE winds @ 7mph, HT @ 2:00pm	See Leland: placed fencing at access road to East Beach from Dike Bridge, placed sign in box at this fence line	See Leland	did not check	-	-	did not check	did not check	2	-	-	Did not see brood	Did not check	0
06/14/2017	DB	70F, 25% cloud cover, mostly sunny; NINE winds @ 5mph, LT @ 9:33am & HT @ 4:24pm	-	"need to move 'no dog' signs further into middle of swimming beach	1	0	0	BON	Tony saw birds & chicks foraging bayside in early AM	1	-	-	Saw two territorial adults, but no sign of chicks - were alarm calling	3 eggs, BON	0
6/15	ES	60s, mostly sunny, SSW winds @ 5-10mph getting stronger PM	-	-	-	-	-	BON, 4 eggs	4 chicks, 2 adults feeding oceanwide 20 yards south of symbolic fencing edge	5 (17A pair, 3 others feeding near crossover)	-	-	2 eggs, BON, 1 adult nearby	-	-
6/18	ES	38F, overcast with some drizzle, 15mph SSW	-	PIPL brood 15 was seen feeding oceanwide and later seen bayside. No chicks from AMOY 12 brood were seen.	-	-	-	4 eggs, BON +1 nearby	4 chicks, 2 adults oceanwide and bayside	5	-	-	2 eggs	-	-
6/20	ES	fog, mid 60s, 15+mph SW winds	-	PIPL brood 15 in oceanwide vegetation. Possible lame/broken wing scoter. 1 skimmer flying over dike bridge	4	2	-	4 eggs, BON +1 feeding nearby	2 adults brooding 2 chicks could only confirm 2 chicks, visibility limited by vegetation	4 (17 pair, 2 UNB feeding bayside)	-	-	could not locate brood	BON +1 nearby; observed swapping of incubation duties	-
6/21	CRB	68 degrees, 10 mph winds from S	-	-	3	2	-	4 eggs, BON	2 adults, 3 chicks	3	-	-	Did not see	BON +1 nearby	-
6/22	ES	sunny and clear, 70s	-	-	-	-	-	4 eggs, BON	-	-	-	-	-	2 eggs, BON +1 nearby	-
6/25/2017	DB	80F, N winds @ 8mph, 17% cloud cover, HT @ 12:37	-	There was a harrier sighting near where PIPL 15A has been foraging, oceanwide, sometime yesterday afternoon - only one chick was seen. Upon investigating today, I was able to locate at least three chicks foraging oceanwide with both adults - still not certain where the fourth chick may be	4	3	0	4 eggs, BON, both adults present	2 adults & 3 chicks foraging oceanwide	7	2	-	Did not observe - there were no signs of chicks; however, there were 2 adults oceanwide near nest site	Both eggs hatching with heavy pipping (i) - could hear and see chicks inside, BON; both adults present	1
6/28	ES	sunny, high 60s-low 70s	-	-	1	-	-	-	1 adult seen oceanwide, fled on approach	-	-	-	-	-	-

Date	Staff	Weather	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL10	PIPL15	# AMOY	# AMOY Chicks	# of AMOY Fledges	AMOY 12A	AMOY 17A	Terms
6/29	ES	overcast. 10 mph SW winds mid 70s			3	5		Hatched - 3 chicks near nest cup. 1 egg still being incubated. Both adults present.	1 adult and 2 chicks oceanside near the false enclosure. Chicks are getting larger and have some contour feathers.						
7/2	DB, ES	80F (feels like 88), SW winds @ 9mph, 67% cloud cover	-	PIPL10A has crossed over to the Narrows - see notes in The Gulf/Narrows	1	2	-	Spotted 2 chicks & 2 adults foraging at the Narrows where PIPL15 was before.	2 chicks & 1 adult oceanside, foraging	2	0	0	Did not see any chicks	Did not see any chicks	1 LETE flying overhead
7/4	DB, James	80F, NNW winds @ 5mph, sunny with 28% cloud cover; HT @ 9:37am	-	-	4	5	0	Spotted 3 chicks & 2 adults foraging @ the Narrows	2 chicks + 2 adults, foraging oceanside	4	0	0	Did not see any chicks	Did not see any chicks	0
7/5	CRB, Isabel	78, sunny, light wind	None	Did not check but Tony reported young chicks are now being led across road from PIPL 10a	Did Not check	Did Not Check	None	-	-	-	-	-	-	-	-
7/6	ES	partly sunny, 65F, SW winds @ 10mph						2 Chicks, 2 adults oceanside (AM) and on inside trail (PM)	1 chick, 2 adults 75 yds north of brood 10A	1 UNB					
07/09/2017	DB	12mph, sunny; 0% cloud cover; HT @ 1:17	-	Unable to find PIPL10a - checked both @ East Beach & the Narrows - there are some kayaks where I last saw the chicks four days ago (~5 kayaks on the shoreline) - may be worth investigating the area for a take. I thought I heard a peep near where the corner is by Drunkard's pond - where you need to cross over a small stream of water, but did not observe the birds	2	0	2(1)	Could not find	2 fledglings(1) & 2 adults foraging oceanside	2 (unbanded)	0	0	Did not see any chicks	Did not see any chicks	0
7/15	DB, ES	d cover, 70F with NE winds @ 6mph, LT @ 1	-	2 gulls foraging near PIPL10A - check back to see if third PIPL chick is still with brood	7	2	2	2 chicks & 2 adults, foraging oceanside near swimming beach	2 fledglings + 1 adult (male) foraging oceanside - did not see other adult	0	0	0	-	-	1 flying over oceanside
								2 adults, 2 chicks near	1 fledgling						

Date	Staff	Weather	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL10	PIPL15	# AMOY	# AMOY Chicks	# of AMOY Fledges	AMOY 12A	AMOY 17A	Terms
7/16	ES	sunny, low 70sF, SW winds @ ~10 mph						2 adults, 2 chicks near swimming beach	1 fledgling oceanside						
7/17	DB	incredibly heavy fog - no more than ~50 yards of visibility; colder, a bit humid - ~69F in the AM, SSW winds @ ~5mph; 100% cloud cover	-	Dense fog, growing denser as walking (went from 50 down to ~25 yards of visibility during bird check in afternoon) - due to the dense fog I am unsure whether or not I was able to do a full count of birds in the area - very difficult to see	1	1	1	@ least 1 chick + 1 adult	1 fledgling - did not see adults, but again, very dense fog	0	0	0	-	-	0
7/18	DB	78F (feels like 90F) with 98% humidity; dense fog in the AM, SSW winds @ 5mph	-	Visibility is terrible today - quick in and out (can only see about 15-20 yards in front of me by early afternoon	2	2	1	2 chicks + 1 adult oceanside, south of nest site	1 fledgling + 1 adult oceanside	0	0	0	-	-	0
7/19	DB	SSW winds @ 10mph; 100% cloud cover; H	-	-	2	2	1	2 chicks + 1 adult foraging oceanside just north of enclosure site	1 fledgling + 1 adult foraging oceanside	0	0	0	-	-	2 LETE foraging oceanside
7/21	ES	going to full sun, 75F to 81F in PM, WSW winds @ ~10mph		3 adult fledgling-sized PIPL seen in far distance, but could not confirm if near-fledge P10 or fledged P06					2 fledglings						
7/22/2017	DB	84F (feels like 92F), S winds @ 7mph, 46%	-	PIPL10A has not fledged yet but the chicks look as though they have most of their flight feathers in: like... x100000 green heads... green head mortality - 7(1)	1	2	1	2 chicks + 1 adult foraging oceanside	1 fledgling running oceanside near Amuda's Pt	3 (UE) foraging oceanside	0	0	-	-	1 LETE flying from oceanside to bayside
7/23/2017	ES	overcast, 70F, E winds @ 10+mph		Observed P06 adult with fledgling flying overhead, then landed near P10. Territorial behavior ensued.				1 adult, 1 chick oceanside							
7/28/2017	ES	mostly sunny, 74F, N winds @ 5mph		PIPL tracks going across the inside trail from oceanside to bayside; brood P10 is likely crossing here.	0	0	0	did not check	did not check	0	0	0	-	-	0
7/30/2017	ES, DB	mostly sunny, 69F, NE winds @ 15+mph	-	-	1	1	0	1 adult, 1 chick	did not check	2 UNB	0	0	-	-	0
8/2/2017	ES, DB	mostly sunny, 81F (feels hotter); ~40% cloud cover developing into ~10%, SW winds @ 5mph; no information on the tides	-	P10 chicks are capable of short, low, and clumsy flight.	1	0	4	1 adult, 2 chicks	2 fledglings	0	0	0	-	-	0
8/3/2017	ES	overcast, 68F, S winds @ 10mph	-	P10 fledglings did not run from UTV, but ran and flew when I approached on foot.	1	0	3	2 fledglings	1 adult, 1 fledgling	0	0	0	-	-	0
8/4/2017	ES	sun to thick fog mid morning, 75F, SE winds @ 10mph	-	Visiting PIPL brood of 4 fledglings and 2 adults loafing between 1st and 2nd crossover. P10 brood just next to swimming beach fence. P15 brood about 50 yards north of 1st crossover.	4	0	8	1 adult, 2 fledglings	1 adult, 2 fledglings	0	0	0	-	-	0
8/5	ES	cloudy, thick fog, 70F, NE winds @ 10mph	-	Visiting PIPL brood N of swimming beach	1	0	4	could not locate	could not locate	0	0	0	-	-	2 ROTE

East Beach Cont'd

Date	Staff	Weather	Fence Maintenance	Notes	# PIPL adults seen	# PIPL chicks	# of PIPL Fledges	PIPL10	PIPL15	# AMOY	# AMOY Chicks	# of AMOY Fledges	AMOY 12A	AMOY 17A	Terms
8/3/2017	ES	overcast, 68F, S winds @ 10mph	-	P10 fledglings did not run from UTV, but ran and flew when I approached on foot.	1	0	3	2 fledglings	1 adult, 1 fledgling	0	0	0	-	-	0
8/4/2017	ES	sun to thick fog mid morning, 75F, SE winds @ 10mph	-	Visiting PIPL brood of 4 fledglings and 2 adults loafing between 1st and 2nd crossover. P10 brood just next to swimming beach fence. P15 brood about 50 yards north of 1st crossover.	4	0	8	1 adult, 2 fledglings	1 adult, 2 fledglings	0	0	0	-	-	0
8/5	ES	cloudy, thick fog, 70F, NE winds @ 10mph	-	Visiting PIPL brood N of swimming beach	1	0	4	could not locate	could not locate	0	0	0	-	-	2 ROTE
8/6	ES, DB	mostly sunny, 68F to 76F, WNW winds @ 10 to 15 mph	-	P10 is just north of the 1st crossover. The visiting brood is between the 1st and 2nd crossovers.	2	0	5	1 adult, 2 fledglings	could not locate	5 (at least 3 UNB)	0	0	-	-	3 ROTE, 1 COTE, 1 LETE
8/10	ES	cloudy to clear, 70F, W winds @ ~5mph	-	P10 fledgling feeding by seal carcass. Visiting PIPL brood on swimming beach.	2	0	5	1 fledgling	could not locate	0	0	0	-	-	0
8/14/2017	DB, AP (volunteer)	Humid & hot (~91F, feels like 90F); SSW winds @ 5mph; 80% cloud cover; HT @ 4:30pm	-	3 black-bellied plovers, foraging oceanside; 1 laughing gull; did not see PIPL15A - may have moved on(?); did not see any visiting PIPL broods; 14 sandpeeps foraging oceanside	2	0	2	2 adults + 2 fledglings, foraging oceanside near swimming beach	may no longer be on the beach	2	0	0	-	-	1 LETE flying over oceanside, foraging

****Daily Observation Form files can be sent for easier reading.**

Appendix C: Dog Incidents/Numbers

Dogs on Properties - 2017 (counted by Gatehouse

Attendants)				
	Dike Bridge	Dogs Off Leash	Wasque	Dogs Off Leash
5/28 - 6/3/2017	10	2	No Data	1
6/4 - 6/10/2017	0	1	No Data	
6/11 - 6/17/2017	36		No Data	
6/18 - 6./24/2017	21		No Data	
6/25 - 7/1/2017	8	2	15	
7/2 - 7/8/2017	15	1	28	1
7/9 - 7/15/2017	4		33	4
7/16 - 7/22/2017	10		13	
7/23 - 7/29/2017	15		20	
7/30 - 8/5/2017	17		17	
8/6 - 8/12/2017	23		19	
8/13 - 8/19/2017	24		17	
8/20 - 8/26/2017	18		14	
8/27 - 9/2/2017	20		13	
9/3 - 9/9/2017	9		26	
9/10 - 9/16/2017	8		33	
9/17 - 9/23/2017	1		20	TS Jose
9/24 - 9/30/2017	11		39	
10/1 - 10/7/2017	13		22	Wasque closed 10/2 - 10/5/2017
10/8 - 10/14/2017	13		3	
10/15 - 10/21/2017	No Data		No Data	
Totals	276		332	
Grand Total				608
Dike Bridge Gatehouse data was collected Sundays through Thursdays				
Wasque Gatehouse data was collected Fridays through Sundays in June and August, Fridays through Wednesdays in July and September,				

Appendix D: Predators Captured Per Day/Traps Used on MV

Date	Initials of Observer	Site	# Mock Enclosures	# Traps per Site	Bait Used	# and Species of Predator Captured	Were Traps Reset ?	Notes/% Eggs taken by Crows
3/27/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	Enclosures set up
3/29/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	0% Uptake

3/30/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	0% Uptake
4/1/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	0% Uptake
4/2/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	Uptake at Exclosure 3, Leland
4/3/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	Uptake at Exclosure 3, Leland, and 2 on Norton
4/4/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	100% Uptake on Norton, and Exclosure 3 at Leland
4/6/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	100% Uptake
4/7/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	100% Uptake
4/9/2017	CRB	Leland/Norton	6	No	3 Chicken Eggs each	N/A	N/A	100% Uptake
4/10/2017	CRB	Leland/Norton	6	USDA	USDA	USDA	USDA	USDA on site
4/11/2017	CRB	Leland/Norton	6	USDA	USDA	USDA	USDA	USDA on site
4/12/2017	CRB	Leland/Norton	6	USDA	USDA	USDA	USDA	USDA on site
4/13/2017	CRB	Leland/Norton	6	USDA	USDA	USDA	USDA	USDA on site
4/14/2017	CRB	Leland/Norton	6	USDA	USDA	USDA	USDA	USDA on site
5/14/2017	CRB	Leland/Norton	-	4 on Leland and 6 on Norton Point	Marshmallows and Peanut Butter	N/A	N/A	-
5/15/2017	CRB/ES	Leland/Norton	-	4 on Leland and 6 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/16/2017	CRB/ES	Leland/Norton	-	4 on Leland and 6 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/17/2017	CRB/ES	Leland/Norton	-	4 on Leland and 6 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/18/2017	CRB/ES	Leland/Norton	-	4 on Leland and 6 on Norton Point	Marshmallows and Peanut Butter	1 Skunk Leland	Yes	-

5/19/2017	CRB/ES	Leland/Norton	-	4 on Leland and 6 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/20/2017	CRB/ES	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/21/2017	CRB/ES	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/22/2017	CRB/ES	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/23/2017	CRB/DB	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/24/2017	CRB/DB	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/25/2017	CRB/ES/DR B	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/26/2017	CRB/ES/DR B	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	1 American Crow	Yes	-
5/27/2017	CRB/ES/DR B	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/28/2017	CRB/ES/DR B	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	0	N/A	-
5/29/2017	CRB/ES/DR B	Leland/Norton	-	8 on Leland and 8 on Norton Point	Marshmallows and Peanut Butter	1 American Crow	Yes	-
5/30/2017	DB, Tony	Leland	3	No	3 Chicken Eggs at 1 site (ES covered the rest separately)	N/A	N/A	-
5/30/2017	ES	Norton	3	No	3 Chicken Eggs each	N/A	N/A	-
6/1/2017	ES	Leland	2	No	-	N/A	N/A	0% uptake
6/3/2017	DB, ES	Leland	2	No	3 Chicken Eggs each	N/A	N/A	100% uptake
6/4/2017	DB	Leland	2	No	3 Chicken Eggs each	N/A	N/A	100% uptake
6/4/2017	DB	East Beach	1	No	-	N/A	N/A	0% uptake
6/5/2017	CRB	Leland/Norton	6	USDA	USDA	USDA	USDA	USDA on site

6/6/2017	CRB	Leland/ Norton	6	USDA	USDA	USDA	USDA	USDA on site
6/7/2017	CRB	Leland/ Norton	6	USDA	USDA	USDA	USDA	USDA on site
6/8/2017	CRB	Leland/ Norton	6	USDA	USDA	USDA	USDA	USDA on site
6/9/2017	CRB	Leland/ Norton	6	USDA	USDA	USDA	USDA	USDA on site
6/21/2017	DB, Anica	Leland	2	No	-	N/A	N/A	Took down exclosures
7/7/2017	CRB/ES/DB	Leland/ Norton	0	8 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/8/2017	CRB/ES/DB	Leland/ Norton	0	9 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/9/2017	CRB/ES/DB	Leland/ Norton	0	10 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/10/2017	CRB/ES/DB	Leland/ Norton	0	11 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/11/2017	CRB/ES/DB	Leland/ Norton	0	12 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/12/2017	CRB/ES/DB	Leland/ Norton	0	13 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/13/2017	CRB/ES/DB	Leland/ Norton	0	14 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/14/2017	CRB/ES/DB	Leland/ Norton	0	15 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/15/2017	CRB/ES/DB	Leland/ Norton	0	16 on Leland, 8 on Norton	PB and Marshmellow s	0	N/A	-
7/16/2017	CRB	Leland/ Norton	0	0	N/A	N/A	Took In Traps	-